| Ind | dex of | Claims |  |
|-----|--------|--------|--|
|     |        |        |  |

| Application No. | Applicant(s) |    |
|-----------------|--------------|----|
| 10/031,442      | MIYAKAWA ET  | AL |
| Examiner        | Art Unit     |    |
| An H. Do        | 2853         | _  |

| <b>√</b> | Rejected |  |
|----------|----------|--|
| =        | Allowed  |  |

| _ | (Through numeral)<br>Cancelled |
|---|--------------------------------|
| ÷ | Restricted                     |

| N | Non-Elected  |
|---|--------------|
| ı | Interference |

| A | Appeal   |
|---|----------|
| o | Objected |

| Cla              | im                                     |              |  |              |            | Date      | •               |                 |                 |          |         | Cla  | im       |                 |          |          | Da      | te      |                    |  |        | (              | laim       |  |                 |          |  | ate  | _  |           | _  |                 |
|------------------|--|--------------|--|--------------|------------|-----------|-----------------|-----------------|-----------------|----------|---------|--|----------|-----------------|----------|----------|---------|---------|--------------------|--|--------|----------------|------------|--|-----------------|----------|--|--|--|-----------|--|-----------------|
| _                | ā                                      | <b>4</b>     |  |              |            |           |                 |                 |                 |          |         | _  | ョ        |                 | 1        |          |         |         |                    |  |        | _              | <u>8</u>   |  |                 | - 1      |  | ļ  | i  | ļ.        | İ  |                 |
| Final            | Original                               | 12/22/04     |  |              |            |           |                 |                 |                 |          |         | Final  | Original |                 | Ì        | 1        |         |         |                    |  |        | Final          | Original   |  |                 | ļ        |  |  |  |           | ı  |                 |
| ű.               | Ö                                      | 12           |  |              |            | ŀ         |                 |                 |                 |          |         | iII.   | Ö        |                 |          |          |         |         |                    |  |        | ΙŒ             | Ö          |  |                 |          |  | -  |  | l         |  |                 |
|                  |  | ↓_           | _  | _            |            |           | _               | $\dashv$        | 4               | _        |         |  |          |                 | _        | _        | _       | _       | 11                 | _  | 4::::  |                |            |  | -               |          |  | _  | _  | _         | _  | _               |
| 1_               | 1                                      | 트            | <u> </u>   | <u> </u>     | -          |           | _               |                 | _               | _        |         |  | 51       |                 |          |          |         | ╄       | 1-1                |  | -      |                | 101        | _  | $\vdash$        |          | _  | _  |  | -         | $\dashv$                                     | -               |
| <u> </u>         | 2                                      | <u> </u>     | <u> </u>   |              | -          | -         | $\dashv$        | -               | $\dashv$        | _        |         |  | 52       |                 | +        | +        | +       | +       | 11                 |  | -      |                | 102        |  | $\vdash$        |          |  | -  |  | -         |  | $\dashv$        |
| <u> </u>         | ₿.                                     | _            | <u> </u>   | <u> </u>     | -          |           | _               |                 | -+              |          |         | $\vdash$   | 53       | -               | +        | +        | +       | ╀       | ╁╼╁                |  | -      |                | 103        | H  | $\vdash \vdash$ | -        |  |  | -  | -         | $\dashv$                                     | $\dashv$        |
| 2                | 5                                      | =            |  | <u> </u>     | Н          | $\vdash$  | $\dashv$        | -+              | $\dashv$        |          |         | -  | 54<br>55 | $\vdash$        | -+       | +        | +-      | ╁       | +                  |  | -      |                | 104<br>105 |  | $\vdash$        | -        |  |  |  | -         | $\dashv$                                     | $\dashv$        |
| 3                |  | =            |  | _            |            |           | $\dashv$        | $\dashv$        | +               | $\dashv$ |         | $\vdash$   | 56       | -               | -        |          | -       | -       | +                  | _  | -      |                | 106        | -  |                 | $\dashv$ | $\dashv$   | $\dashv$   | $\dashv$   | $\dashv$  | $\dashv$                                     | $\dashv$        |
| 5                | 6<br>7                                 | =            | ├—   | -            |            |           |                 |                 | -               |          |         | $\vdash \vdash \vdash$                           | 57       | ┝╌╢             | -        | +        | +-      | ╁       | +                  | -  | -      |                | 107        | -  | -               |          | -  | $\dashv$   | $\dashv$   | $\dashv$  | $\overline{}$                                | $\dashv$        |
| 6                | 8                                      | =            |  |              |            |           | $\dashv$        | -               | $\dashv$        | $\dashv$ |         | $\vdash$   | 58       |                 |          | +        | +-      | ╫       | +                  |  | -      |                | 108        | -  | $\vdash$        |          |  | $\dashv$   | $\dashv$   |           | $\dashv$                                     | $\dashv$        |
| 7                | 9                                      | =            | <del>                                     </del> | $\vdash$     | -          | -         | $\dashv$        | -               |                 | $\dashv$ |         |  | 59       | $\vdash$        | $\dashv$ | +        | ╅       | ╫       | + 1                |  | -      | -              | 109        | _  | $\vdash$        |          |  |  | $\neg$   | $\dashv$  | $\dashv$                                     | $\dashv$        |
| 8                | 10                                     | =            |  | _            | Н          | $\vdash$  | $\dashv$        | $\dashv$        | _               | -        |         |  | 60       |                 | $\dashv$ | +        |         | ╁       | +                  |  | -      |                | 110        |  | -               |          |  | $\dashv$   | $\dashv$   | $\dashv$  | $\dashv$                                     | $\dashv$        |
| 9                | 11                                     | =            |  |              | H          | $\vdash$  | $\dashv$        | -               | +               | ㅓ        |         |  | 61       | $\vdash$        | $\dashv$ | $\dashv$ | - -     | +-      | 1-1                | $\neg \dagger$                                   | 1      |                | 111        | <del>                                     </del> |                 |          |  | $\exists$  |  | 1         | $\dashv$                                     | $\dashv$        |
| 10               | 12                                     | =            |  |              | $\vdash$   | $\vdash$  | $\vdash$        |                 | _               | $\dashv$ |         |  | 62       | $\vdash$        | $\dashv$ | $\top$   | _       | +-      |                    |  | 1      |                | 112        |  | $\vdash$        |          |  |  | $\dashv$   | 7         | $\dashv$                                     | $\dashv$        |
| - <del>.</del> - | 1/8                                    | t            |  |              |            | H         |                 |                 | $\dashv$        | $\dashv$ |         |  | 63       | П               | _        | $\top$   | _       | 1       | $\top$             | -  | 1      |                | 113        | İΤ   | $\Box$          |          |  |  | $\neg$   | 一         | $\neg$                                       | $\neg$          |
|                  | 14                                     | l            |  | <u> </u>     | Н          | $\Box$    |                 |                 | 1               | ٦        |         |  | 64       | П               | $\dashv$ | $\top$   | $\top$  | 1       | 1                  |  | 1      |                | 114        |  | П               |          |  |  |  |           | $\neg$                                       | $\neg$          |
|                  | 14<br>15                               | T            |  |              | Н          | $\Box$    |                 | $\Box$          | $\dashv$        | 7        |         |  | 65       | П               | $\dashv$ | $\top$   | $\top$  | T       |                    | _  | 1      |                | 115        |  | $\Box$          |          |  |  |  |           | $\neg$                                       | _               |
|                  | 16                                     | T            | Г  |              | П          | $\square$ | $\Box$          | $\Box$          | $\dashv$        | $\neg$   |         |  | 66       | П               | 1        | 十        | $\top$  | 1       |                    |  |        |                | 116        | 1  | П               |          |  |  | $\neg$   | $\dashv$  |  |                 |
|                  | 17                                     | 1            | 1  | _            | П          |           |                 |                 | 7               | ٦        |         |  | 67       | П               |          | 1        | 1       | 1       |                    | $\neg$   | 7      |                | 117        | Γ  |                 |          |  |  |  | $\neg$    |  |                 |
|                  | 1B                                     | <b>T</b>     | <b>!</b>   |              |            |           |                 | T               |                 |          |         |  | 68       | П               |          |          |         | Τ       |                    |  | 7::::  |                | 118        |  |                 |          |  |  |  | T         | $\neg$                                       |                 |
|                  | 10                                     |              | <del>                                     </del> |              |            |           |                 | T               |                 |          |         |  | 69       |                 |          |          |         |         |                    |  |        |                | 119        |  |                 |          |  |  |  |           |  |                 |
|                  | 20                                     |              | 1  |              |            |           |                 |                 |                 |          |         |  | 70       |                 |          |          |         | 1       |                    |  |        |                | 120        |  | П               |          |  |  |  | •         | П  |                 |
|                  | 21                                     | Τ            |  |              |            |           |                 |                 |                 |          |         |  | 71       |                 | T        | T        |         |         | 1                  |  | 7::::  |                | 121        |  | П               |          |  |  |  |           |  |                 |
|                  | 22                                     |              | 1-   |              |            |           |                 |                 |                 |          |         |  | 72       |                 | T        | T        | 1       |         | $\top \top$        |  | 7::::  |                | 122        |  | П               |          |  |  |  |           |  |                 |
|                  | 28                                     |              | Г  |              |            |           |                 |                 | T               |          |         |  | 73       |                 |          | T        |         | 1       | П                  |  | 7111   |                | 123        |  |                 |          |  |  |  |           |  |                 |
|                  | 24                                     |              |  |              | П          | П         |                 |                 |                 |          |         |  | 74       |                 |          |          |         |         |                    |  |        |                | 124        |  |                 |          |  |  |  |           |  |                 |
|                  | 24<br>25<br>26<br>27                   |              |  |              |            |           |                 |                 |                 |          |         |  | 75       |                 |          | $\Box$   |         |         |                    |  |        |                | 125        |  |                 |          |  |  |  |           |  |                 |
|                  | 26                                     |              |  |              |            |           |                 |                 |                 |          |         |  | 76       |                 |          |          |         |         |                    |  |        |                | 126        |  |                 |          |  |  |  |           |  |                 |
|                  | 27                                     |              |  |              |            |           |                 |                 |                 |          |         |  | 77       |                 | $\Box$   |          |         |         |                    |  |        |                | 127        |  |                 |          |  |  |  |           |  |                 |
|                  | 28                                     |              |  |              |            |           |                 |                 |                 |          |         |  | 78       |                 |          |          |         |         |                    |  |        |                | 128        |  | Ш               |          |  |  |  |           |  | Ш               |
|                  | 29                                     |              |  |              |            |           |                 |                 |                 |          |         |  | 79       |                 |          |          |         |         |                    |  |        |                | 129        |  |                 |          |  |  |  |           | $\Box$                                       | Ш               |
|                  | 3D                                     |              |  |              |            |           |                 |                 |                 |          |         |  | 80       |                 | $\perp$  |          |         | 1       |                    |  | _      |                | 130        | <u> </u>   | Ш               |          |  |  |  |           |  |                 |
|                  | 31                                     |              |  | _            |            | Ш         |                 | Ц               |                 | ᆜ        |         |  | 81       | Ш               |          |          |         | ┸       |                    |  | 4      | _              | 131        | <u> </u>   |                 |          |  |  |  |           |  | Ш               |
|                  | 28<br>29<br>39<br>31<br>33<br>33<br>33 | <u> </u>     | L  |              |            | Ш         | Ш               |                 |                 |          |         | <b></b>  | 82       | Ш               |          |          | _       | $\perp$ | $\perp \perp$      | $\sqcup \bot$                                    | 4      | <u> </u>       | 132        | <u> </u>   | Ш               |          | L  |  |  | _         |  | Щ               |
| L                | 33                                     | <u> </u>     | <u> </u>   | <u> </u>     | Ш          | Ш         | Ш               | Ш               | $\perp$         |          |         | <u> </u>   | 83       | Ш               |          | _        |         | $\perp$ | $\perp$            |  | 4      | <u> </u>       | 133        | <u> </u>   | Ш               |          |  |  | Ш  |           | $\square$                                    | $\sqcup$        |
| <u></u>          | 34                                     | <u> </u>     | <u> </u>   | _            |            | Ш         |                 | $\sqcup$        |                 |          |         | <u> </u>   | 84       | Ш               | _        | _        |         | 4       | $oldsymbol{\perp}$ |  | 4:::   | <u> </u>       | 134        | $\vdash$   | Ш               |          |  |  |  |           | Ш  | $\vdash \vdash$ |
| ļ                | 34<br>35<br>36<br>37<br>38<br>39<br>49 | <u> </u>     | $\vdash$   | _            | lacksquare | $\sqcup$  | Ш               | <u> </u>        | _               |          |         | <u> </u>   | 85       | $\sqcup$        | $\dashv$ | _        | _       | $\bot$  | +                  |  | 4      | <u> </u>       | 135        | ⊢  | $\sqcup$        |          | <u> </u>   |  |  | $\square$ | <u>,                                    </u> | $\vdash$        |
|                  | 36                                     | _            | $\vdash$   |              | Ш          |           |                 | $\vdash \dashv$ |                 |          |         | <u> </u>   | 86       | $\sqcup$        | _        | +        | $\perp$ | ╄       | $\perp$            |  | 4      | <u> </u>       | 136        | <b>⊢</b>   | $\vdash$        |          | $\vdash$   | $\vdash$   |  |           | $\vdash$                                     | Щ               |
| <u> </u>         | 37                                     | _            | <u> </u>   | _            | <u> </u>   | $\sqcup$  |                 | $\sqcup$        | $\dashv$        | _        |         | <u> </u>   | 87       |                 | -+       | +        | +       | +-      | +                  |  | -      | _              | 137        | ├  | Н               |          | <u> </u>   |  |  |           | $\vdash$                                     | $\vdash \vdash$ |
| <u> </u>         | 38                                     | <del> </del> | <u> </u>   | <u> </u>     |            | $\sqcup$  | Щ               | Ш               | _               | 4        |         | ļ  | 88       | $\vdash \vdash$ | $\dashv$ | -        | - -     | +-      | -                  |  | -      | ├—             | 138        | ┢  | H               |          | $\vdash$   | $\vdash$   | _  |           |  | $\vdash$        |
| <u> </u>         | 139                                    | <u> </u>     | <del> </del>                                     | <del> </del> |            | $\square$ | $\vdash \vdash$ | $\sqcup$        |                 | _        |         |  | 89       | $\vdash$        | -        | -        | +       | +       | +                  | $\vdash \vdash$                                  | - :::  | <u> </u>       | 139        | ├-   | -               |          | $\vdash$   |  |  |           |  | $\vdash \vdash$ |
| <u> </u>         |  | ₩            | -  | -            |            | $\vdash$  | $\vdash$        | $\vdash \vdash$ | $\dashv$        |          |         | <u> </u>   | 90       | $\vdash$        | -+       | +        | +       | +       | +                  |  | -      | <u> </u>       | 140        | -  | $\vdash$        |          | ├  | $\vdash$   | <del>  </del>                                    | $\vdash$  | $\vdash$                                     | $\vdash\vdash$  |
|                  | 41                                     |              |  | <b>├</b>     | ļ          | $\vdash$  |                 |                 | $\dashv$        |          |         | $\vdash$   | 91       |                 | +        | +        | +-      | +-      | +                  | -  | - :::  | $\vdash$       | 141<br>142 | ┼  | $\vdash$        |          | -  | -  |  | $\vdash$  | $\vdash$                                     | $\vdash\vdash$  |
|                  | 42                                     | ₩            | +-   | ₩            | -          |           | $\vdash \vdash$ | $\vdash \vdash$ | $\dashv$        | $\dashv$ |         | <b> </b>   | 92       | $\vdash$        | -+       | -        | +       | +       | +                  | $\vdash$   | -      | <del>  -</del> | 142        | +-   | $\vdash$        | _        |  | $\vdash$   | -  |           | ┌─┤  | ┌┤              |
|                  | 48<br>44<br>45<br>46                   | $\vdash$     | ₩  | ₩            | <b>⊢</b>   | $\vdash$  | $\vdash \vdash$ | $\vdash \vdash$ | $\dashv$        |          |         |  | 93<br>94 | $\vdash$        | $\dashv$ | +        | +       | +       | +                  | $\vdash$   | -      | ├              | 144        | ╁  | -               |          | $\vdash$   |  |  |           | ┌─┤  | Н               |
| -                | 4                                      | -            | ╁  | ├            | -          | H         |                 | $\vdash \vdash$ | $\dashv$        |          |         | <u> </u>   | 95       | $\vdash$        | -+       | +        | +       | +       | +                  | <del>                                     </del> | -      |                | 145        | ┼─   | +-              | -        | $\vdash$   | <del>                                     </del> |  |           | Н  | Н               |
| <u> </u>         | 4P                                     | ┼            | ├  | $\vdash$     | -          | $\vdash$  | $\vdash$        | $\vdash$        | $\dashv$        | {        |         | <del></del>                                      | 96       | $\vdash$        |          | $\dashv$ | +       | +       | +                  | <del>-  -</del>                                  | -      | _              | 146        | <del> </del>                                     | ╁╌              |          | <del>                                     </del> | -  |  |           | -  | Н               |
| <b></b>          | 47                                     | $\vdash$     | ⊢  | <del> </del> | -          | Н         | ┝╌┤             | $\vdash$        | $\vdash \vdash$ | _        |         | <del> </del>                                     | 97       | $\vdash$        | $\dashv$ | +        | +       | +       | +                  | <del>-  -</del>                                  | -      | $\vdash$       | 147        | 一  | +               |          | $\vdash$   | -  |  | $\vdash$  | г  | Н               |
|                  | 48                                     | +-           | ├  |              | ├          | $\vdash$  | $\vdash$        | $\vdash$        | -               | ᅱ        |         | <del>                                     </del> | 98       | $\vdash$        | $\dashv$ | +        | +       | +       | +                  | $\vdash \vdash$                                  | -      | <del> </del>   | 148        | <del> </del>                                     | $\vdash$        | -        | $\vdash$   |  | <del></del>                                      |           | г  | Н               |
|                  | 49                                     | ╁            | ╁╌   | $\vdash$     | ┢          | Н         | $\vdash$        | $\vdash$        | $\vdash$        | $\dashv$ |         | -  | 99       | $\vdash$        | $\dashv$ | +        | +       | +       | +                  |  | -      | <u> </u>       | 149        | $\vdash$   | +               | -        | 1  |  | <del>                                     </del> | Н         |  | Н               |
|                  | 50                                     | +            | 1  | $\vdash$     | ╁          | Н         | $\vdash$        | $\vdash \vdash$ | $\vdash$        | $\dashv$ |         | <u> </u>   | 100      | $\vdash$        | $\dashv$ | +        | +       | +       | +                  |  | -      | $\vdash$       | 150        | $\vdash$   | $\vdash$        |          | $\vdash$   |  | <del> </del>                                     | Н         | $\Box$                                       | Н               |
| <u> </u>         | JU                                     | 1            | 1  | L            | l:         | L         | $\Box$          | ┸               | ╙               |          | : : : : |  | 100      |                 |          | L        |         |         |                    | ᆫ  | _::::: | Щ.             | 1 100      | ــــــــــــــــــــــــــــــــــــــ           | Щ               | L        | Ь  | Ь_   | Ь  | ш         |  | ш               |